CASE REPORTS

◀ Primary Spindle Cell Fibromyosarcoma of the Gallbladder ◀ Chylothorax

Primary Spindle Cell Fibromyosarcoma of the Gallbladder

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THIS is the report of a case of primary spindle cell fibromyosarcoma of the gallbladder with autopsy findings. It is reported in view of the rarity of the disease and the obvious interest, both surgical and medical, attaching to lesions of the gallbladder. A review of the literature reveals reports of only 37 similar cases. The pathologic findings in a series of 525 patients operated on for gallbladder disease were reviewed by Erdmann. Of these only six had malignant changes (one sarcoma and five carcinoma). Ragius reviewed 8,534 autopsies in which there were 31 cases of primary malignancy of the gallbladder (28 carcimona, two sarcoma and one melanoblastoma).

The popular pathology texts do not mention sarcoma of the gallbladder and it is only with difficulty that the bibliography and literature on this subject is found. For this reason we are including a full bibliography of the subject. Dyrenforth and Jelks reviewed the literature to 1937. Many of their cases from the foreign journals were taken second hand from the reviews of DeGaetani and Triggiani and the bibliography is not complete. The monograph by Karlmark is the best source we were able to find. It presents a full review of the literature to 1932 and includes interesting tables, excellent drawings and plates.

Most of the reported cases present a striking clinical similarity and may be described as follows: Spindle cell fibromyosarcoma of the gallbladder characteristically runs a rapid clinical course, ending in death due to extension and metastasis. The course is almost always less than one year and usually less than six months, although the date of onset of the symptoms is difficult to determine due to the frequent complication of cholelithiasis. The most prominent symptom is constant, severe, right upper quadrant pain. This pain is sharp but not colicky and radiates to the back, occasionally to the right lower quadrant or to the right shoulder. Jaundice usually appears late if at all. A large tender mass is usually palpable and as a rule consists of a greatly distended gallbladder and a moderate-sized tumor. The disease is four times more common in females than in males and it occurs as a rule in the fourth, fifth or sixth decade.

Table 1 is a summary of all the cases of spindle cell fibromyosarcoma of the gallbladder we were able to find in the literature. There were a few others referred to in the literature (Bianchi, 1933; DeGaetani, 1932; Bignami, 1936; Lindenbaum, 1940; Romani, 1932; Hromada, 1933) but we were unable to obtain the journals. These references are added to the bibliography for the sake of completeness. Of the 37 cases reviewed, 29 were in women, six in men, and in two the sex was not stated. The average age was 58 years, and there was a palpable mass in 18 out of 20 cases in which this observation was recorded. The average length of life after the onset of symptoms was about 6.2 months. Stones were found in 30 of the 32 cases in which this observation was recorded. There was one case (Cathcart, 1911) in which the patient lived and was apparently well for 2½ years after operation. In that case the sarcoma was complicated by a cholecystic abscess and empyema. The sarcoma was apparently completely removed.

In addition to the spindle cell sarcomas, we have listed other sarcomata at the foot of Table 1. This list includes five lymphosarcoma, five of the perithelioma type, two melanosarcoma, one angiosarcoma and an "alveolarsarcoma."

From the University of California Medical School, San Francisco.

CASE REPORT

The patient was a 32 year old, single, white female clerk who was admitted to the Franklin Hospital, San Francisco, December, 1945, complaining of right flank pain, radiating around to the right lower quadrant of the abdomen.

Present Illness: The patient was well until about six months prior to admission, at which time she was awakened at night by a pain in the chest and the right upper quadrant of the abdomen. The pain soon disappeared. After breakfast the following morning she was seized again by sudden severe general upper abdominal crampy pain associated with nausea and vomiting. She brought up mostly undigested food and some "bile." The severe pain "had her doubled up for two hours." Then it gradually decreased and was replaced by a slight steady aching pain in the right lower quadrant, right flank and back. This pain gradually went away over a period of three weeks' time. Her temperature during the acute attack was 100°F. but had been normal since. X-ray of kidneys was said to be negative. There was no further nausea and vomiting, no jaundice or change in character of urine or stool. She was well for four months. About two months prior to hospital admission she noted the onset of general tiredness which became progressively worse. About five weeks prior to admission, she developed a pressing muscular soreness at the lower tip of the right scapula which she attributed to sitting in a draft. There was no nausea, vomiting or change in color of stool.

Family History: The father died of cancer of stomach. There was no other familial history of cancer or gallbladder disease.

Past History: A tonsillectomy had been done in childhood, otherwise no operations, hospitalization, serious illnesses or injuries.

System Review: Negative.

Physical Examination: The patient, a well developed but undernourished white female, was in moderate distress due to right flank and right abdominal pain. General physical examination was essentially negative. Examination of the abdomen revealed moderate tenderness in the right lower quadrant. There was a definite hard irregular slightly movable mass (about 3 cm. by 6 cm.) palpable over the region of the ascending colon. In the flank there was slight tender-

ness just to the right of the lower thoracic and upper lumbar vertebra.

Roentgen examination of the chest and the colon was essentially negative.

Laboratory: Blood count showed hemoglobin 68% (10 gm.) erythrocytes numbered 3,800,000, leukocytes 11,400.

Urinalysis: Clear, amber; pH 6.4; albumin negative; sugar negative; occ. squamous epithel. and pus cells.

Wassermann and Kahn: Negative. Sedimentation rate: (Wintrobe) 6 mm. in 15 minutes; 26 mm. in 45 minutes; 29 mm. in 60 minutes.

Feces: Dark brown material, formed, no mucus present; occult blood negative.

Operation on December 21, 1945 was performed by Dr. H. B. Stephens through a right rectus incision. The gallbladder and cystic duct were greatly dilated. The gallbladder was removed and two large papillary tumors were found at the mouth of the gallbladder obstructing the cystic duct. Within the gallbladder there was a large clot partly mixed with concentrated bile. There was no local extension of the tumors and the liver appeared free of metastases. Palpation of the other abdominal organs revealed no abnormal masses

TABLE 1.—*Summary of All Cases of Spindle Cell Fibromyosarcoma the Authors Were Able to Find in the Literature*

No.	Date	Author	Sex	Age	Survival after onset	G. B. Palpable	Stones	Pathology
					SPINDLE CELL SARCOMA			
1	1878	Ingalls	F	55	2 mo.	yes	yes	Pred. spindle cell
2	1881	Destree	F	52	1 yr.	yes	yes	Spindle cell sarcoma
3	1897	Griffon	F	76	2 mo.	?	yes	Fibrosarcoma
4	1900	Newjadomski	F	55	1 yr.	?	yes	Polymorphous
5	1904	Landsteiner	M	68	1 yr.	yes	yes	Myosarcoma (spindle cell)
6	1907	Landsteiner	?	?	?	?	yes	Spindle cell (myo) sarcoma
7	1908	Parlavecchio	M	59	1 yr.	no	none	Spindle cell sarcoma
8	1908	Dialti	F	60	2 mo.	?	yes	Spindle cell sarcoma
9	1908	Arheiner	F	59	6 mo.	?	yes	Spindle and giant cell sarcoma
10	1909	Bayer	F	59	1½ yr. ?	yes	yes	Spindle cell sarcoma
11	1909	Bayer	F	65	2-6 mo.	no	?	Polymorphous (? chondro) sarc.
12	1910	Hotes	F	52	3 mo.	?	yes	Spindle cell sarcoma
13	1911	Cathcart	M	45	? lived	yes	yes	Spindle cell sarcoma
14	1911	Brunner	?	?	?	?	yes	Stellate cell sarcoma
15	1911	Strassmann	F	54	?	yes	yes	Giant and round cell sarcoma
16	1913	Thöle	F	38	? alive	?	yes	Fibrosarcoma
17	1914	Schoenlauk	F	49	?	?	yes	Polymorphous cell sarcoma
18	1914	Iwasaki	F	52	1 yr.	yes	?	Spindle and giant cell sarcoma
19	1915	Carson	F	38	?	yes	yes	Round and spindle cells—sarcoma
20	1918	Jaffe	M	45	2 mo.	yes	yes	Polymorphous and spindle cell sarc.
21	1921	Stickdorn	F	59	9 mo.	?	yes	Polymorphous and spindle cell sarc.
22	1926	Brendolan	F	51	?	?	yes	Spindle cell sarcoma
23	1927	Szymonowicz	F	52	6 mo.	yes	yes	Polymorphous cell sarcoma
24	1929	Rolliston	F	56	?	?	?	Spindle cell sarcoma
25	1931	Kaufmann	F	51	2 mo.	?	yes	Polymorphous cell sarcoma
26	1931	Brunschwig	F	55	5 mo.	yes	no	Spindle cell sarcoma
27	1932	Karlmark	F	59	?	yes	yes	Polymorphous cell sarcoma
28	1932	Karlmark	F	77	9 mo.	?	yes	Giant and spindle cell sarcoma
29	1932	Karlmark	F	73	3 mo.	yes	?	Myosarc. with spindle cells
30	1934	Triggiani	M	68	?	?	?	Spindle and round cell sarcoma
31	1935	Erdmann	F	52	5 mo.	yes	yes	Spindle cell myosarcoma
32	1936	Büttner	F	70	1 yr.	yes	yes	Spindle cell sarcoma
33	1937	Dyrenforth	F	72	3 mo.	yes	yes	Spindle cell sarcoma
34	1937	Ragius	M	62	5 wks.	yes	yes	Polymorphic sarcoma
35	1937	Ragius	F	50	2 mo.	yes	yes	Spindle cell sarcoma
36	1939	Oesterlin	F	79	? 3 mo.	?	yes	Spindle cell sarcoma
37	1939	Sammartino	F	63	2 mo.	?	yes	Spindle cell sarcoma
					LYMPHOSARCOMA			
1	1882	Seibert	M	52	?	?	?	Lymphosarcoma
2	1918	Rohdenburg	F	55	2 mo.	?	yes	Lymphosarcoma
3	1921	Magoun	?	?	?	?	yes	Lymphosarcoma
4	1923	Dalla Valle	F	53	?	?	yes	Round cell sarcoma
5	1928	Althabe	F	50	4 or 5 yr.	?	yes	Round cell sarcoma
					ENDO AND PERITHELIOMA			
1	1903	Becker	F	65	13 mo.	yes	?	Hem. endothelioma
2	1907	Bland-Sutton	F	43	?	?	?	Perithelioma
3	1913	Phillips	F	70	15 mo.	yes	yes	Endothelioma
4	1913	Phillips	M	78	3 mo.	?	yes	Endothelial sarcoma
5	1931	Keinkneght	F	69	9 wks.	yes	?	Endothelial sarcoma
					MELANOSARCOMA			
1	1907	Wieting	F	40	?	?	no	Melanoblastoma
2	1937	Ragius	?	?	?	?	?	Melanoblastoma
					OTHERS			
1	1889	Klingel	F	50	?	yes	yes	Angiosarcoma
2	1923	Dalla Valle	M	68	?	?	none	Alveolarsarcoma

and it was felt that the tumor was completely removed.

Postoperative course: About three days postoperatively the patient developed left sided pleurisy with effusion which subsided spontaneously. Her postoperative course was otherwise uneventful and she was discharged in January, 1946.

Following discharge from the hospital the patient's symptoms gradually improved but clinically it was apparent she had metastases and she pursued a downhill course with a drop in weight from 95 lbs. to 82 lbs. shortly before her death. Her RBC and Hgb. went from 3,800,000 and 68% down to 2,000,000 and 30%, shortly before her death, in spite of several whole blood transfusions.

February 8, 1946: The chest was clear to physical examination and fluoroscopy. Reflexes equal and active. There was no adenopathy; there was moderate tenderness and guarding in the right upper quadrant in relation to a small mass felt beneath her surgical scar. February 26, 1946: The RUQ mass was increased in size and clinically it was thought to be an extension into the retroperitoneal space or lymph nodes. There was a slight sensation of fullness on the left in the flank. March 12, 1946: (Last office visit) She was very weak. There were masses in both flanks. The one in the right flank was larger. She was seen frequently at home in Marin County, by her local physician, where she received supportive treatment until she expired on April 3, 1946.

Pathological Report: Surgical Specimen: Gross Description: Tissue removed reveals a gallbladder outline 11 cm. in length and 5 cm. in diameter with quite a bit of roughness of the surface. Near the neck of the gallbladder there is seen induration and apparent proliferation of tissues. The wall of the gallbladder is thickened and the lumen is filled with clear watery sanguinous fluid. At the base of the gallbladder are several polypoid friable structures protruding 1 cm. into the lumen proper and grossly invading the gallbladder wall.

Microscopic Description: This neoplasm presents fusiform anaplastic cells usually bi-polar and forming distinct cytoplasmic strands, although without clearcut evidence of collagen deposition. The nuclei are oval and show much mitotic activity and pyknoses. Scattered throughout are frequent giant cells with many nuclei similar in structure to the mononucleated cell forms. Necrosis is evident throughout as well as some pigment and apparent hemorrhage. No specific pattern is noted in the cell arrangement, except for parallel sheets of fusiform cells.

Diagnosis: Sarcoma of gallbladder.

Autopsy Report: The body was rather emaciated, but was otherwise externally negative. There was about 1000 cc. of clear fluid in the abdominal cavity and a few old adhesions at the site of surgical operation. The organs were negative, except for some tumor tissue in the mesentery. The autopsy was limited to the abdomen; but palpation through the diaphragm revealed no abnormalities in the chest. The liver was smooth and showed no gross evidence of tumor except at the site of the gallbladder, there was a tumor, 3 to 4 cm. in size and which extended directly into a larger tumor in the adjacent mesentery. The spleen and pancreas showed no tumor and no gross abnormalities. The adrenals were very large and completely replaced by tumor, each now measured 10 cm. in size. No adrenal tissue was seen. The tumor in the adrenal area was granular in consistency. The kidneys were rather pale but showed no evidence of abnormality and no tumor. Internal genitalia were normal except for a tumor implant in the left ovary. The intestinal tract contained no tumor. All other portions of the body were normal.

Microscopic Description: Tumors were found in the adrenal, at the old gallbladder site, in the ovary and in the mesentery, all of similar pattern to that of the original surgical specimen. The cells are fusiform with poorly defined outline. Collagen or reticulum was not demonstrated. The oval nuclei sometimes had a prominent nucleolus, and these nuclei often showed mitoses, much pleomorphism, and many nuclei. The tumor showed much necrosis, hemorrhage, and blood pigment deposition. There is no pattern in the tumor such as would indicate a neurogenic, and certainly no suggestion of an epithelial type of arrangement. Special stains were not informative. No cross striations were seen. Kidneys showed a moderate pyelonephritis, hemoglobin casts, and congestion about the glomeruli, but no inflammatory infiltration.

Pathological Diagnosis: Spindle cell fibromyosarcoma of the gallbladder with metastases to the adrenals, ovaries and mesentery.

Discussion: That this tumor represents a primary neoplasm of the gallbladder seems to be true beyond all reasonable doubt. At operation the tumor was limited entirely to the gallbladder and its neck, and palpation of other abdominal organs revealed no tumor elsewhere. At autopsy it is true that the adrenals presented perhaps the most striking possible source of tumor, but the pattern of the tumor is not at all characteristic of the adrenal, and the fact that both adrenal tumors were of equal size favors their both being metastatic. There was no clue as to any other possible primary origin. In a few areas these cells are arranged in fasiculi, but in no place is there actually distinct pattern, such as would warrant the identification of the specific tissue of origin. Special and differential stains fail to reveal the actual type of cell other than its being sarcomatous. The fact that the collagen is not found and that the van Gieson's stain does not show any significant amount of connective tissue somewhat supports the opinion that these cells are of smooth muscle origin. This is entirely possible and perhaps even probable, but an anaplastic fibrosarcoma which did not form collagen or significant reticulum would present an identical staining characteristic. The scattered giant cells which are noted, are only multinucleated forms of the fusiform cells which make up the major cell type. No cross striations are seen in these large multinucleated forms. There is moderate vascularity in the tissue, but nothing that would support the blood vessels as possibly being the tissue of origin.

Investigation of the different types of gallbladder tumors which have been reported in the literature shows that most of these tumors have been classified on the simple structural detail of the cells involved. Such being the case, the term spindle cell sarcoma is most frequent and accounts for at least two-thirds of these tumors reported. The remaining percentage is made up by such descriptions as round cell sarcoma, polymorphic sarcoma and giant cell type, etc. A few of the tumors have received specific tissue names such as myosarcoma, chondrosarcoma, etc. Of the malignant mesoblastic tumors of the gallbladder it is very probable that a great majority of them will be on the basis of either connective tissue origin or smooth muscle. The distinction between these two types of cell type may be very difficult or impossible, particularly in anaplastic tumors.

Because most of the sarcomas of the gallbladder are a cellular type of spindle-cell tumor, the choice of an adequate term to describe this type of tumor is not easy. This spindle-type of pattern is very likely to originate from one of two tissues: either a fibroblast or a myoblast. In both types of tumors, scattered giant cells and multinucleated cells are to be expected. Special stains occasionally help in distinguishing the one type of tissue from the other, but more frequently than not these procedures fail to make this distinction, particularly as the tumor becomes more anaplastic. Thus, in naming such a tumor a simple descriptive name

indicating the predominant shape of the cell type, such as simple spindle-cell sarcoma could be used. A second choice would be to choose a name such as fibromyosarcoma of the gallbladder, thus indicating that probably both cell types are concerned in the process and certainly suggesting that each specific cell type is difficult to separate from the other. In the tumor which is being reported, it is felt that the evidence histologically favors the essential background cell as being smooth muscle and that the term which most adequately describes this tumor is a spindle-cell fibromyosarcoma.

SUMMARY

1. The literature pertaining to sarcoma of the gallbladder is briefly summarized and a full bibliography of the subject is listed.

2. One case of spindle-cell fibromyosarcoma of the gallbladder is reported.

3. The name spindle-cell fibromyosarcoma is suggested for this type of gallbladder tumor.

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